AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Currently Amended*) A method of routing between a source node and a destination node in a network having nodes connected by links, wherein at least one link uses signal compression and the remaining links do not use signal compression, wherein the method comprises:

performing at least two routing calculations for a maximum number of ~~links using~~ signal compressions and decompressions~~compression~~, said routing calculations comprising a first routing calculation for a number of ~~links using~~ signal compressions and decompressions ~~compression~~ that is less than said maximum number, and a second routing calculation for said maximum number of ~~links using~~ signal compressions and decompressions ~~compression~~ using information obtaincd from the first routing calculation, and

selecting a route between said source node and said destination node based on the least number of links required for the route as determined by ~~results from~~ said routing calculations.

2. (*Previously Presented*) The method according to claim 1, wherein the method further comprises choosing a cost function and wherein the routing calculations minimize the cost function.

3. (*Currently Amended*) The method according to claim 1, wherein a routing calculation comprises, at a node where the number of ~~links using~~ signal compressions and decompressions ~~compression~~ from the source node is equal to the maximum number, seeking and saving adjacent links on which signal compression is used for a subsequent routing calculation.

4. (*Currently Amended*) The method according to claim 1, wherein a routing calculation for a given number of ~~links that use~~ signal compressions and decompressions ~~compression~~ uses the Dijkstra algorithm and verifies the number of links using signal compression when adding a node to the route.

5. (*Currently Amended*) A method of routing between a source node and a destination node in a network having nodes connected by links, wherein at least one link uses signal compression and the remaining links do not use signal compression and the network further comprises overflow links to an external network, wherein the method comprises:

performing at least two routing calculations for a maximum number of ~~links using~~ signal compressions and decompressions~~compression~~, said routing calculations comprising a first routing calculation for a number of ~~links using~~ signal compressions and decompressions ~~compression~~ that is less than said maximum number, and a second routing calculation for said maximum number of ~~links using~~ signal compressions and decompressions ~~compression~~ using information obtained from the first routing calculation,

performing at least two overflow routing calculations for a maximum number of overflow links and for the maximum number of ~~links using~~ signal compressions and decompressions~~compression~~, said overflow routing calculations comprising a first overflow routing calculation for a number of overflows less than said maximum number of overflow links, and a second overflow routing calculation for the maximum number of overflow links and the maximum number of ~~links using~~ signal compressions and decompressions ~~compression~~ using information obtained from said first overflow routing calculation, and

selecting a route between said source node and said destination node based on the least number of links required for the route as determined by ~~results from~~ said routing calculations.

6. (*Previously Presented*) The method according to claim 5, wherein the method further comprises choosing a cost function representative of the cost of the overflow links and wherein the routing calculations minimize the cost function.

7. (*Previously Presented*) The method according to claim 5, wherein the routing calculations are effected for a given number of overflow links by varying the number of links using signal compression and then by varying the number of overflow links.

8. (*Previously Presented*) The method according to claim 6, wherein the cost function accounts for occupancy of resources in the network.

9. (*Previously Presented*) The method according to claim 8, wherein the cost function accounts for charges incurred because of the overflow links.

10. (*Currently Amended*) A method of routing between a source node and a destination node in a network having nodes connected by links, wherein at least one link uses signal compression and the remaining links do not use signal compression, wherein the method comprises:

performing a first routing calculation with links that do not use signal compression;

performing a second routing calculation for a number of ~~links using~~ signal compressions and decompressions ~~compression~~ that is less than a maximum number of signal compressions and decompressions~~compressions~~;

performing a third routing calculation for the maximum number of ~~links using~~ signal compressions and decompressions ~~compression compressions~~ using information obtained from the first and second routing calculations, and

selecting a route between said source node and said destination node based on the least number of links required for the route as determined by ~~results from~~ said routing calculations.

11. (*Previously Presented*) The method according to claim 10, wherein the method further comprises choosing a cost function and wherein the routing calculations minimize the cost function.

12. (*Currently Amended*) The method according to claim 10, wherein a routing calculation for a given number of ~~links using~~ signal compressions and decompressions ~~compression~~ comprises, at a node where the number of ~~links using~~ signal compressions and decompressions ~~compression~~ from the source node is equal to the maximum number, seeking and saving adjacent links on which signal compression is used for a subsequent routing calculation.

13. (*Currently Amended*) The method according to claim 10, wherein a routing calculation for a given number of ~~links using~~ signal compressions and decompressions ~~compression~~ uses the Dijkstra algorithm and verifies the number of links using signal compression when adding a node to the route.

14. (*Currently Amended*) A method of routing between a source node and a destination node in a network having nodes connected by links, wherein at least one link uses signal compression and the remaining links do not use signal compression and the network further comprises overflow links to an external network, wherein the method comprises:

performing a first routing calculation with links that do not usc signal compression;

performing a second routing calculation for a number of ~~links using~~ signal compressions and decompressions ~~compression~~ that is less than a maximum number of signal compressions and decompressions~~compressions~~;

performing a third routing calculation for the maximum number of ~~links using~~ signal compressions and decompressions ~~compression compressions~~ using information obtained from the first and second routing calculation;

a fourth routing calculation for a number of overflow links less than a maximum number of overflow links;

a fifth routing calculation for the maximum number of overflow links and the maximum number of ~~links using~~ signal compressions and decompressions ~~compression~~ using information obtained from said fourth routing calculation, and

selecting a route between said source node and said destination node based on the least number of links required for the route as determined by ~~results from~~ said routing calculations.

15. (*Previously Presented*) The method according to claim 14, wherein the method further comprises choosing a cost function representative of the cost of the overflow links and wherein the routing calculations minimize the cost function.

16. (*Previously Presented*) The method according to claim 14, wherein the routing calculations are effected for a given number of overflow links by varying the number of links using signal compression and then by varying the number of overflow links.